

constraints, but rather to provide 'further reading', is a mistake, since the student reader has no idea where to find further information on a particular topic. One example suffices to make the point. In Chapter 7, the author provides a first-rate description of the geomorphology of *aa* and *pahoehoe* lava flows, but by not tying this closely to the theoretical, process-based studies of D. W. Peterson, R. I. Tilling and C. R. J. Kilburn he fails to demonstrate how knowledge of these flow types has improved through the linking of descriptive studies with more process-based, theoretical studies. Without citation of relevant texts and papers, a full understanding

of the geomorphology of lava flows is extremely difficult for a student to achieve using the reading list at the end of the book.

Overall, this is an excellent book to whet the appetite, and the enthusiasm of the author for his topic shines through on every page. For the general reader and as a library purchase it is highly recommended, but for student purchase it is of much more limited value.

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COLD CLIMATE LANDFORMS edited by David J. A. Evans, Wiley, Chichester, 1994. No. of pages: xvi + 526. Price: £95.00. ISBN 0-471-94043-7.

This is the first in a promised series of *Classic Papers in Translation* that will seek to address the ignorance of English-speaking geomorphologists with regard to geomorphological literature published in other European languages. The book includes 21 papers, of which 17 relate to periglacial landforms and the reconstruction of Quaternary periglacial climates, leaving a mere four papers concerned with glacial landforms and deposits. This imbalance certainly reflects the significance of periglacial geomorphological research in central and eastern Europe, but one is forced to question the purpose of including these few glacial papers here, significant though they may be. A separate volume doing justice to the non-Anglophone contribution to glacial geomorphological literature might have offered a more satisfactory solution.

The book is arranged in seven short sections: permafrost landforms and regional reconstructions (five papers); periglacial landforms (six papers); glacial and fluvioglacial landforms (four papers); marine and lacustrine landforms (two papers); polygenetic landforms (one paper on saprolites); cold climate slopes (two papers); and rock glaciers (one paper). Each translation is prefaced by an excellent editor's review, in which inclusion is justified in terms of significance to subsequent research or, in some cases, neglect by later researchers. The inclusion of these comments increases the value of the volume enormously to both teachers and students.

Inevitably, any assessment of the significance of particular papers depends on the interests and experience of the reviewer. Certainly, David Evans has included many seminal works, including Poser's 1948 reconstruction of European climate during the last glacial stage, the

description of relict ground ice phenomena by Pissart (1963), the discussion of frost weathering and introduction of the term 'periglacial' by Lozinski (1909), the fascinating and perceptive paper by Sørensen (1935) on mechanisms of solifluction and the formation of patterned ground, Tricart's (1956) experimental study of frost weathering, the review of drumlin formation by Czechówna (1953) and the study of rock glaciers by Barsch (1969). The inclusion of more recent works, notably that of Bertran *et al.* (1992) on the formation of grèze litées, illustrates well a theme that runs through most of the papers collected here, i.e. the importance of understanding processes before attempting to interpret the palaeoclimatic significance of landforms and deposits. Only time will tell in judging the relative importance of these recent papers to the overall development of cold climate geomorphology.

The major omission from this volume is some representation of the extensive Russian literature on geocryology and permafrost phenomena. The editor justifies this omission by reference to alternative sources of Russian translations, but the absence of papers on modern permafrost processes is a weakness, and reflects a European preoccupation with relict periglacial phenomena that contrasts with the focus of North American research. The book provides a useful compilation of papers, some of historical rather than scientific interest, but others providing valuable insights into cold climate landforms and processes. At £95 this volume is expensive, and only the most committed individuals are likely to buy. It should, however, find a place on the library shelves of all universities where advanced courses in cold climate geomorphology are offered.

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